

Thurston County, Washington
Resolution No. H3-90
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Health Ordinance
Adopted: 1990

RESOLUTION NO. H3-90

A RESOLUTION relating to groundwater protection, establishing a geologically sensitive area in the area east of Lacey, and adding a new Section 30 to Article IV of the Thurston County Sanitary Code.

The Thurston County Board of Health makes the following findings of fact:

1. The aquifer lying under the area described in Section 1 of this Resolution (McAllister aquifer) is one of the most important sources of drinking water in Thurston County. Approximately 5,800 persons in the unincorporated County obtain their drinking water from wells drilled into this aquifer. Approximately 47,000 persons in the cities of Olympia and Lacey obtain their drinking water from springs fed by this aquifer. This aquifer is capable of providing water to twice these numbers and will be the major source of drinking water in Thurston County well into the future.
2. This aquifer consists primarily of coarse sands and gravels, with approximately five to ten percent less permeable glacial till. These coarse sands and gravels allow relatively rapid infiltration and transmission of water and have high percolation rates. These soils are also generally poor at binding, trapping and filtering contaminants. Consequently, they have low potential to treat and retain pollutants.
3. There are likely six different soil layers in the McAllister aquifer. All of these layers or aquifer levels are connected. Consequently, a pollutant introduced into the surface aquifer can migrate through all aquifer levels.
4. The McAllister aquifer is often very shallow, as demonstrated by well depths that are often less than fifty feet. The soil above the top aquifer level is also coarse, thus affording reduced protection from pollution.
5. The physical characteristics described in findings 2 through 4, together with the fact that the McAllister aquifer receives its water from the infiltration of rainwater and runoff, demonstrate that the McAllister aquifer is quite susceptible to pollution. This conclusion has also been reached by several recent independent, technical studies of the aquifer.

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6. United States census figures show that from 1980 to 1989 Thurston County was one of the fastest growing counties in the state. The part of the County experiencing the highest growth rate is the area lying south of I-5, west of the Nisqually River, east of Lacey, and north of the Yelm Highway. The vast majority of the growth in this area is in the form of residences using on-site sewage disposal systems. Much of this high growth area is situated directly over the McAllister aquifer.

7. Land use activities, principally residential and agricultural, are already causing increased levels of pollution in the McAllister aquifer. Wells drilled into the aquifer have significantly higher nitrate levels than other wells sampled in the north Thurston County area. McAllister Springs, which is fed by the McAllister aquifer, is experiencing a strong trend of increasing nitrate levels. Pesticides, often at concentrations exceeding existing or proposed maximum contaminant levels, have been detected in wells along Lake St. Clair and Pattison Lake.

8. Nitrates are a pollutant, capable of causing, at elevated levels, a blood disorder in infants known as methemoglobinemia, or blue baby syndrome. More importantly, nitrates are a product of common land use activities, such as sewage disposal and fertilization of crop lands. Consequently, an increase in nitrate levels is an accepted indicator of probable increase in other pollutants, such as disease-causing organisms and household hazardous waste.

9. The low natural level of nitrates in McAllister area groundwater indicates that the increasing nitrate trends now being detected are the result of land use activities.

10. A recent study shows that a substantial number of years must pass before water and pollutants introduced at the ground's surface will migrate through the McAllister aquifer to reach McAllister Springs. It is estimated that vertical travel time from the surface to the aquifer's main water-bearing Salmon Springs formation takes from two to ten years. Once within the Salmon Springs formation, water may take over fifty years to reach McAllister Springs. Consequently, the increasing level of pollution at McAllister Springs is the result of land use activities occurring years ago, before the recent higher level of development in the area. The current levels of pollution at the Springs do not yet reflect the intensification of land use activities occurring in the years leading up to the partial development moratorium in the McAllister area adopted in 1988.

11. Recent independent studies show that on-site sewage disposal systems (septic systems), agricultural practices, stormwater runoff and lawn fertilization are the

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most significant contributors to nitrogen and other pollutants to the McAllister aquifer. A study also indicates that the risk of spills and accidents involving hazardous materials poses a potentially high threat to the area's groundwater.

12. The boundaries of the McAllister aquifer were derived first by calculating the elevation above mean sea level of the water level in numerous wells throughout the area. Water levels of the same elevation were connected to give groundwater contour lines. Groundwater flow lines

were then determined by recognizing that groundwater flows perpendicular to the contour lines, from higher to lower elevations. The hydrologic boundaries of the aquifer were determined using this contour and flow information and were further refined by use of a computer model or program developed by Golder Associates for the McAllister aquifer. The area included in the McAllister GSA established by this Resolution is the area overlying the McAllister aquifer as determined by the methods summarized in this finding.

13. By Resolution No. H-5-88, adopted September 28, 1988, this Board imposed a moratorium on the issuance of most building site approvals and on the filing of most building site applications in the area then thought to lie over the McAllister aquifer. The Board took these actions because evidence of increasing pollution of the groundwater indicated that the McAllister aquifer might be irreparably damaged by the time a number of groundwater studies then commencing were completed. The data from those and other studies commissioned by the County is now available. That data, the essential features of which are summarized in these findings, shows that it is necessary in the public health, safety and welfare to enact permanent measures to protect this aquifer of great importance to the people of Thurston County. These measures must be adopted before the restrictions of Resolution H-5-88 expire on August 15, 1990.

14. In order to halt the trend of increasing pollution of the McAllister aquifer, avoid the spread of disease and unsanitary conditions and prevent the creation of a public nuisance, it is necessary for the preservation of the public health, welfare and safety to adopt the measures contained in this Resolution and to amend the zoning ordinance as proposed in this Resolution. The brief moratorium on building site applications and approvals for development at densities greater than one dwelling unit per five acres established by this Resolution is necessary to afford the Planning Commission and Board of County Commissioners adequate opportunity to consider the zoning changes recommended herein.

15. The Board recognizes the necessity of protecting and preserving all of the County's groundwater resources. County departments shall continue and intensify their

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efforts to identify aquifers which may be vulnerable to pollution and shall propose appropriate measures to combat such threats.

NOW, THEREFORE, BE IT RESOLVED BY THE THURSTON COUNTY BOARD OF HEALTH as follows:

Section 1. A new section 30 is hereby added to Article IV of the Thurston County Sanitary Code to read as follows:

SECTION 30: McALLISTER GEOLOGICALLY SENSITIVE AREA.

30.1 Creation of Geologically Sensitive Area. Pursuant to Chapter 70.05 RCW and Article IV, Section 15 of the Thurston County Sanitary Code, the area described in subsection 30.2 of this

Section 30 constitutes a geologically sensitive area to be known as the McAllister Geologically Sensitive Area (McAllister GSA).

30.2 Area of McAllister GSA. The McAllister GSA comprises the territory shown on the parcel specific map entitled "McAllister Geologically Sensitive Area, August 13, 1990" with a notation referring to this Resolution in the custody of the Thurston County Public Health and Social Services Department.

30.3 Sewage Disposal Regulations. In addition to any other requirements imposed by this Code, the following requirements shall apply within the McAllister GSA:

(a) Any on-site sewage disposal system for which a permit to install, connect, repair, alter, extend or relocate is issued on or after August 15, 1990

(I) shall contain a pressure distribution system in accord with state Department of Health Technical Review Committee Guidelines;

(ii) shall have SSAS trenches or beds no deeper than thirty (30) inches below the surface of the ground;

(iii) shall have at least thirty-six (36) inches of separation between the bottom of any SSAS trenches or beds and the maximum seasonal groundwater elevation or any impermeable layer.

The health officer may require greater vertical separation pursuant to Section 5.2.2 of this Article IV. However, notwithstanding the provisions of Section 5.2.2 the health officer may not reduce the thirty-six (36) inch vertical separation required by this Section.

(b) An operational permit is required for any on-site sewage disposal system for which a permit to install, connect, repair, alter, extend or relocate is issued on or after August 15, 1990, or which is part of a sale of property on or after August 15, 1990. The operational permit may be revoked when:

(I) the on-site system fails to meet the maintenance and operational conditions or requirements of the permit, or

(ii) the on-site system fails to meet any standard or requirement imposed by law.

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The operational permit shall be revoked when any dwelling unit or other premises where sewage originates is required to connect to public sewer pursuant to subsection 30.3(c), below. Unless inconsistent with this section, all other provisions of Article IV, Section 10.6 of this Code shall apply to operational permits.

Whether or not an operational permit is required, any dwelling unit or other premises where sewage originates within two hundred (200) feet of a public sewer system shall be connected to the sewer system pursuant to Article IV, Sections 6.1 through 6.1.4 and 6.2 through 6.6.2 of this Code.

(d) Building site approvals may be issued for uses other than single or multi-family residential only if

(I) the designed sewage flow is no greater than 450 gallons per five acres per day, and

(ii) the waste entering the on-site system is equivalent in quality to typical residential waste.

30.4 Agriculture. (a) The Thurston County Cooperative Extension Office is requested annually to review best management practices for the use of pesticides and fertilizers within the McAllister GSA. The procedures used in this review should be submitted to the Board of Health for approval by January 1, 1991.

(b) The health officer shall work with the North Thurston School District and any public or

private agency owning or operating parks within the McAllister GSA to obtain better compliance with best management practices for pesticides and fertilizers.

30.5 Stormwater and Hazardous Materials.

(a) Pesticides shall not be used to maintain any County property in the McAllister GSA.

(b) The health officer shall send letters to the director of the State Department of Transportation and to the governing officials of the Fort Lewis Military Reservation, Nisqually Indian Reservation and Puget Power requesting that chemical methods not be used to maintain any rights-of-way located within the McAllister GSA or over groundwater which the health officer deems is connected to the aquifer underlying the McAllister GSA.

The health officer shall write a letter to the director of the State Department of Ecology requesting that applications for the use of aquatic pesticides in Lake St. Clair be granted only upon a finding by the health officer that the proposed use will not likely threaten groundwater.

(d) The health officer shall advise Burlington Northern Railroad and Amtrak of the vulnerable nature of groundwater in the McAllister GSA and request that each:

(I) cease discharging sewage and wastewater along tracks within the McAllister GSA, and

(ii) cease using chemical methods to maintain rights-of-way within the GSA.

The health officer shall also request Burlington Northern and Amtrak to coordinate emergency management

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procedures with the County for spills and accidents within the McAllister GSA.

(e) By December 31, 1990 the health officer shall review existing and proposed requirements for stormwater management governing public or private developments. If the health officer deems such requirements insufficient to protect groundwater in the McAllister GSA, he shall propose stormwater management requirements which are sufficient to that end.

30.6 Education. The Office of Water Quality and Resource Management shall conduct a public education program in the McAllister GSA. The purpose of this program shall be to protect groundwater by instructing residents in proper lawn care and gardening practices, septic system maintenance, and handling and disposal of household hazardous waste.

Section 2. The Board of Health requests the Thurston County Groundwater Advisory Committee (GWAC) to propose special area regulations to the state Department of Agriculture restricting the use of pesticides, especially leaching pesticides, in the McAllister GSA. If these proposed regulations are insufficient to protect the groundwater, the Board of Health will develop and propose additional measures to the state.

Section 3. The health officer shall request the appropriate state and local officials to adopt rules restricting truck traffic within the McAllister GSA to major arterials, such as the Yelm Highway and State Route 510, except for local deliveries. The health officer shall request the responsible agencies to give such designated truck routes high priority for road improvements and maintenance work. The health officer shall also request the proper agencies to install stormwater systems with containment capabilities at any high-risk intersections along such designated truck routes.

Section 4. The Board of Health requests the Thurston County Planning Commission and Board

of County Commissioners to consider and adopt the following changes to the Thurston County Zoning Ordinance for property within the McAllister GSA:

(a) Establish a residential density of one unit per five acres applicable to development which is not connected to public sewer. Residential densities established otherwise in the Thurston County Zoning Ordinance should apply only to development connected to public sewer and served by stormwater facilities meeting all applicable state and local standards. The clustering of residential development should be encouraged in that part of the McAllister GSA lying within the long-term urban growth area boundary.

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(b) Commercial activities which use, handle or store hazardous substances or dangerous wastes as defined in WAC 173-303-040 should not be allowed.

No permit under the Thurston County Zoning Ordinance should be issued for any activity involving the use, handling or storage of hazardous materials as so defined.

(d) No additional area should be zoned for commercial or industrial purposes.

(e) Mining, mineral extraction, and soil removal should be prohibited.

(f) Existing land uses which become nonconforming or which would not be allowed to be sited as a result of zoning ordinance revisions regarding the use, handling or storage of hazardous materials as so defined or mining or mineral extraction should not be allowed to expand or intensify.

(g) Any land uses which include major uses of fertilizer should be subject to restrictions on the use of fertilizer adequate to protect the groundwater from deterioration in quality.

Section 5. On the basis of the above findings and the evidence of aquifer vulnerability and groundwater contamination which has been presented to it, the Board declares the need to accelerate public sewer service to areas in the McAllister GSA where groundwater is likely at risk due to the presence of on-site sewage disposal systems. These are the areas east and southeast of Long Lake, including the Seasons and Eagle Crest subdivisions. This section shall have the effect of a declaration of sewerage need under Sanitary Code Article IV, Section 6.8.

Section 6. The health officer shall request the Technical Review Committee of the state Department of Health to develop as quickly as possible septic system guidelines for systems which enhance nitrogen removal.

Section 7. (a) Subject to the exceptions in subsection (b) of this section, the health officer shall neither issue building site approvals nor accept building site applications for any residential use at a density greater than one dwelling unit per five acres in the McAllister GSA.

(b) The prohibition in subsection (a) does not apply to building site approvals or applications for

(I) lots which received final subdivision approval or otherwise were legally in existence on or before August 15, 1988; or

(ii) lots which are included in an unexpired, fully completed application for preliminary subdivision, short subdivision or large lot subdivision approval submitted to the Thurston County

Planner on or before August 15, 1988. The requirements for submittal of a fully

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completed application are set out in Title 18 of the Thurston County Code.

For purposes of this section, the density of residential uses which are part of a subdivision for which final approval has been granted shall be the average density of the entire subdivision or subdivision phase.

(d) The provisions of this section 7 shall expire on February 1, 1991.

Section 8. Severability. If any provision of this Resolution or its application to any person or circumstance is held invalid, the remainder of the Resolution or the application of the provision to other persons or circumstances is not affected.

ADOPTED: August 13, 1990.

ATTEST: BOARD OF HEALTH
Thurston County, Washington

Clerk of the Board Chairman

APPROVED AS TO FORM:

PATRICK D. SUTHERLAND Member
PROSECUTING ATTORNEY

By: Member
Thomas R. Bjorgen
Senior Deputy Prosecuting Attorney

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